EPB Supp/B
60587/B

A LETTER

TO

JOHN BOGGIE, ESQ.

SURGEON ON THE STAFF AT BRUSSELS,

ON A PARTICULAR SORT OF

Gun-shot Wounds.

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OF EDINBURGH.

EDINBURGH:
PRINTED BY J. PILLANS & SONS.
1815.

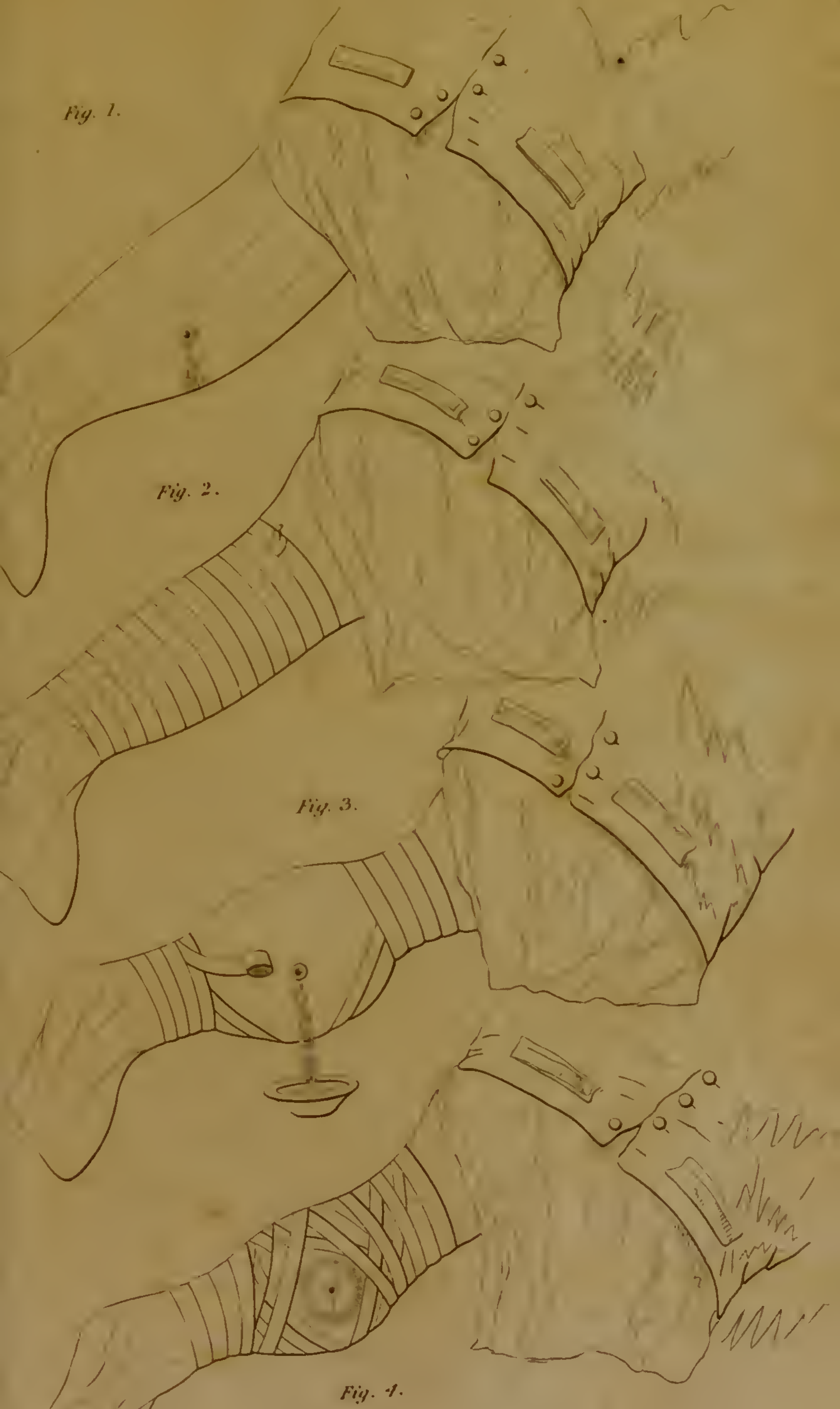

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

TO

JOHN BOGGIE, Esq.

SURGEON ON THE STAFF, AT THE MILITARY
HOSPITAL, BRUSSELS.

My dear friend,

For the sake of maintaining a professional intercourse with you, as well as shewing good will to the service in which we were once jointly engaged, I shall communicate to you an observation which first occurred to me at the military hospital established at Colchester, in 1799, on the return of our troops from the Helder, and which I have ever since found useful, when certain cases of gun-shot wounds presented themselves. It affords a good illustration of a principle which seemed at the time now mentioned to be unknown or neglected in practice, not happening to be one of those which formed the fashionable surgical topics of the day. If the case is now different, it is unknown to me; but in the extensive cene of surgical service in which you are now occupied, it is probable that many such cases as I allude to will be found; and it is possible that the circumstance which I am about to mention may not have received that practical attention which is due to it. It is one of those dictates of common sense which must be approved of when mentioned, yet without minute description, it might not appear in a light sufficiently important and might even run the risk of being neglected for its plainness.

The principle which I have in view belongs to the department of bandages: and the cases to which it is to be applied are those of gun-shot wounds in the thigh, where the ball has penetrated the fleshy part, without fracturing the bone, or injuring any of the great blood-vessels. Such cases often become tedious, in consequence of the looseness of the texture of the cellular membrane, the number of long muscles with distant attachments that pass along the thigh-bone, and the divergency of some of the latter, where they are connected with the bones of the pelvis. These anatomical circumstances render the thigh liable to extensive internal suppuration: the pus diffuses itself through the cellular membrane, and, as is well known, proves from its presence as a foreign body, and perhaps also from its specific action on the living fibre, a cause of the spreading of the suppurating process. The whole cellular membrance of the thigh is soon destroyed, the muscles are as completely separated from one another as if they had been dissected, and the interstices are occupied with fluid pus, which overflows at the orifice of the wound.—Fig. 1. represents a case of this description.

To prevent or cure this state of the thigh, is the object of these observations; and this is to be entirely done by managing well the pressure of the bandage. If no bandage is applied, or a very loose one over the whole, the purulent matter is indeed allowed to flow out when it arrives at the orifice; but it is also allowed to extend interiorly, and no process of adhesion is produced. If, on the other hand, the bandage is applied in that which I found to be the usual way, the pressure made is entirely at random. It presses one part of the pus towards the orifices, and another part of it inward; and what is still worse, by pressing on the orifices themselves, it often forcibly retains the whole, excepting a small part which is periodically squeezed out at the moment when the dressings are changed. This will always be the case, when the bandage is first applied near the knee joint, carried regularly upward by successive turns, passed over the wound in its way, and fixed at the upper part of the thigh, (See Fig. 2.); and the case would be the same, if it were applied on similar principles in the opposite direction. The first case of this kind which I saw, which fell under my hands as a dresser at Colchester, had been long treated in this manner. The wasting process of suppuration was advancing, and there was in fact no tendency to recovery. This mode of applying the bandage must be pronounced inadmissible.

The mode of applying it which is to be substituted is: First, to make a few turns *with considerable pressure* over one extremity of the thigh-bone, and then over the other, so as to reach, with all possible certainty, the extremities of the large sinus into which the thigh has been converted. This propels the remotest portion of the collected matter towards the orifice. The pressure will be easily borne, as no high active inflammation is present. We then retain the bandage at this degree of pressure by a pin, (See Fig. 3.), and make several looser turns alternately above and below, approaching gradually to the orifice in both directions. If there are two orifices, we choose that from which the matter runs most freely, to be left uncovered with the bandage. We need not for this purpose particularly select the lowest. Any advantage derived from the dependent situation of the open orifice is scarcely worthy of attention, while we apply means of evacuation in themselves so powerful. Indeed, the uppermost orifice is, *cæteris paribus*, the most eligible, being examined and dressed with the greatest convenience. During this manual operation, in alternating our application of the bandage betwixt the higher and the lower part of the thigh, we cross it behind, on the side opposite to the open orifice. A propulsion of the pus in every direction to the orifice is thus effected. A considerable part of the surface round the orifice being left uncovered, the bandage is now finally fixed as in Fig. 4.

Over the orifice we apply very light dressings, which we retain by a very loose bandage, allowing the purulent matter a free issue.

The propelling bandage soon produces a depleting effect, and in cases previously neglected, becomes looser on the second day. It then requires to be re-applied, and somewhat tightened. After this, it scarcely ever requires to be altered. All that is necessary, is to renew daily the dressings over the orifice. If no foreign body except the secreted pus is present, the evacuation of it is followed by a rapid process of adhesion, and the limb speedily restored to use. Such was the effect in the case which I have mentioned. The medical gentlemen who saw it, were surprised at the speediness of the man's recovery; but, no inquiries being made into the method of dressing it, no explanation of the process was obtruded. With regard to the application of bandages, the only circumstance then commonly attended to, was the neatness and smoothness of their appearance, with the utility of uniform pressure in certain cases, on the principles of Mr Baynton. A pressure, greatest at the most remote part, and gradually declining towards the outlet, to give the motions of the compressed fluid a sure direction, and to make the commencement of adhesion to take place in the safest quarter, seemed not to have been thought of.

If it should occur to any one, on merely considering these remarks theoretically, and looking at the annexed figures, that a pressure so great must be in danger of stopping the venous circulation, I can only say, that I have never experienced such a consequence. The part of the thigh that was tightest bound, was indeed reduced to a comparatively small diameter, but this was entirely owing to the real emaciation that had taken place, though formerly disguised by the retention of the pus. Where there is any apprehension of a swelling in the leg, it is easy to obviate this, by applying a bandage to it, from the toe to the knee-joint. Or, in fine, if the propelling bandage happens at first to be applied too tight, let it be altered: But we shall act best, by applying it at first as tight as it can be borne. We have thus a chance of extending its effect higher than the situation over which the form of the limb admits of its application. This may prove extremely useful where the sinus has extended high.

The thigh is a part of the body, in which the propelling bandage is particularly necessary, and in which nature gives us the best advantages for its convenient application. It would be superfluous to illustrate its application to other parts of the body. Expedients adapted to the diversities of circumstances will readily suggest themselves to every attentive Surgeon.

I shall only add, that those who, instead of this bandage, trust for the fulfilment of the same intention to the laced stocking or pantaloon, will often be disappointed; but, unless I knew that this were done, I should think it a waste of time to point out the difference of effect betwixt these two mechanical applications.

If, in the present state of practical surgery, you think that these observations can be of any utility, I beg that you will distribute the copies of this paper which I have sent, among your friends of the hospital staff, and, if you have convenience, send a few to the French hospitals.

Yours most truly,

HENRY DEWAR.

EDINBURGH,
12th *August* 1815.